REMARKS

The foregoing amendments are responsive to the June 20, 2008 Office Action. Applicant respectfully request reconsideration of the present application in view of the foregoing amendments and the following remarks.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Response to Rejection of Claims 2-8, 15-16, and 25 Under 35 U.S.C. 112 First Paragraph

The Examiner has rejected independent Claim 2 and Claims 3-8, 15-16, and 25 depending on Claim 2 under USC 112. The Examiner cited the language in the claim regarding "alpha sub-blocks" and "beta sub-blocks". Applicant has amended Claim 2 to remove this reference while retaining a statement regarding a plurality of blocks of zero elements in the decomposition. Support for this occurs in the Specification on Page 37 lines 1-2, Page 38 lines 1-3, and in Figure 13. Page 37 lines 1-2 of the specification state regarding the decomposition:

"This has a block structure, which for this embodiment is:

$$
\begin{bmatrix} I & 0 & ... & 0 \\ A_{2,1} & I & ... & 0 \\ ... & ... & ... & ... \\ A_{m,1} & A_{m,2} & ... & I \end{bmatrix} \bullet \begin{bmatrix} B_{1,1} & B_{1,2} & ... & B_{1,m} \\ 0 & B_{2,2} & ... & B_{2,m} \\ ... & ... & ... & ... \\ 0 & 0 & ... & B_{m,m} \end{bmatrix} = \begin{bmatrix} T_{1,1} & T_{1,2} & ... & T_{1,m} \\ T_{2,1} & T_{2,2} & ... & T_{2,m} \\ ... & ... & ... & ... \\ T_{m,1} & T_{m,2} & ... & T_{m,m} \end{bmatrix} \qquad (4)
$$

Page 38 lines 1-3 of the specification states:

"Figure 13 shows an idealized view of the sparse storage within blocks of A and B. In particular, a block of B, $B_{i,j}$, is generally sparse when i is not equal to j."

Thus, the specification describes a plurality of blocks (the $B_{i,j}$ in Equation (4) for i not equal to j). These B's have the structure shown in the second row of Figure 13. Figure 13 shows that each such block B has a sub-block containing zero elements (shown as white).

$$\tilde{A}_{i,j} = \quad\quad\quad i > j$$

$$B_{i,j} = \quad\quad\quad i < j$$

$$B_{j,j}^{-1} =$$

$$A_{i,j} = \tilde{A}_{i,j}\, B_{j,j}^{-1} :$$

$$A_{i,k} B_{k,j} : \quad\quad\quad i < k \quad k < j$$

FIGURE 13

Response to Rejection of Claims 22 and 33-36 Under 35 U.S.C. 112 Second Paragraph

The Examiner has rejected independent Claim 22 and Claims 33-36 depending on Claim 22 under USC 112. The Examiner stated, "However, the relationship between the 'system of linear equations' as recited in the preamble and the 'interaction data' as recited in line 14 of the claim is unclear." Applicant has amended Claim 22 to clarify this relationship.

Response to Rejection of Claims 23, 24 and 37-39 Under 35 U.S.C. 112 Second Paragraph

The Examiner has rejected independent Claim 23 and Claims 24, 37-39 depending on Claim 23 under USC 112. The Examiner stated there was insufficient antecedent basis for "the

limitation 'said computer program' in line 3 of the claim." The Examiner further stated, "For the purpose of claim examination with the broadest reasonable interpretation, the Examiner will read the first step of claim 23 as 'loading a program into a computer from a computer readable medium encoded with said ~~computer~~ program, said program;". Accordingly, Applicant has changed Claim 23 to recite "program" in place of "computer program."

<u>Response to Rejection of Claims 2-39 Under 35 U.S.C. 101</u>

In the Office Action of June 20, 2008 the Examiner rejected Claims 2-39 under 35 U.S.C. 101 because the invention disclosed in the claims is directed to non-statutory subject matter.

Applicant has amended Claim 2 to clarify that the tangible result is the use of less storage. Computer storage is an exhaustible, physical, resource. The claimed invention reduces usage of this physical resource and thus produces a tangible result.

Applicant asserts that Claims 2-39 are directed to statutory subject matter and allowable over the prior art. Accordingly, Applicant respectfully requests allowance of Claims 2-39.
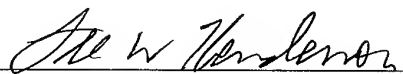
Summary

Applicant respectfully assert that Claims 2-39 are allowable over the prior art, and Applicant request allowance of Claims 2-39. If there are any remaining issues that can be resolved by a telephone conference, the Examiner is invited to call the undersigned attorney at (949) 721-6305 or at the number listed below.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: August 20, 2008   By: _Lee W. Henderson_

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